

THINKWARETM DASH CAM

X300

User Manual

This Dashboard Camera (dash cam) is a specialized onboard device that continuously records video while the vehicle is in use.

Some features may not be available depending on installation, driving conditions, and vehicle type. The video quality might vary for each device as a result of installed firmware.

The device DOES NOT guarantee video recording of all accidents as built-in impact sensor may not be activated due to combination of user settings and the level of impact during the collision.

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Before Using THINKWARE DASH CAM™ X300

- Under the copyright laws, this manual may not be copied, in whole or in part, without the written consent of THINKWARE.
- Every effort has been made to ensure this Guide's accuracy. However, we cannot guarantee the accuracy of the contents in this document as there may be technical errors, omissions, and/or futures changes.
- THINKWARE reserves the right to change or modify the product and the content of this manual at any time without prior notice for product improvements.
- Images contained in this user guide are illustrations for instructional purposes only and may differ from the actual product.
- Users do not reserve the right to use the product for purposes other than as specified in this user guide. According to the Personal Information Protection Act and other related regulations, the user/owner may be held liable if the video and/or conversation recorded by the device are distributed without their consent. Thus, special attention should be paid in using this product.

- The microSD memory card should be tested for errors on a regular basis and as the memory card is a consumable item, it will need to be replaced periodically.
- THINKWARE shall NOT be responsible for any problems and/or damages that may occur from not using genuine or authorized parts and accessories.
- The device and the recorded videos are intended for personal use and the recorded videos should be used for reference only.
- The device does NOT guarantee video recording of all accidents as built-in impact sensor may not be activated due to combination of user settings and the level of impact during the collision.

FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC CAUTION: Any changes or modifications to the equipment not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This Class A digital apparatus complies with Canadian ICES-003.

Caution

- ◆ This device is designed to record video while the vehicle is in operation. The quality of the video might be affected by weather conditions and the road environment such as day or night, presence of street lighting, entering/exiting tunnels, and surrounding temperatures.
- ◆ THINKWARE is NOT responsible for the loss of any recorded video during operation.
- ◆ Although designed to withstand high impact of car collision, THINKWARE does NOT guarantee recording of accidents where the impact may cause the device to be damaged.
- ◆ Keep the windshield clean for optimal video quality.
- ◆ If a foreign substance (e.g. fingerprints) is attached to the lens, this might reduce the quality of the recorded videos. Keep the lens clean all the time.
- ◆ The specified operating temperature of this product is -20°C to 65°C (-4°F to 149°F) and storage temperature is -40°C to 80°C (-40°F to 176°F). Ensure that the device is kept within these temperature ranges; otherwise, the device may not function as designed and at extreme temperatures, permanent physical damage can result which is not covered by warranty.
- ◆ Avoid placing the device under direct sunlight.
- ◆ Avoid using the Product in extreme conditions where the Product is exposed to high temperature and/or humidity.
- ◆ Only use genuine accessories and peripherals from THINKWARE or authorized THINKWARE dealer. THINKWARE does not warrant the safety and compatibility from use of peripherals from other manufacturers. Use genuine parts supplied by THINKWARE.
- ◆ Do not apply excessive force when pushing the buttons on the device.
- ◆ Do not clean the Product using chemical cleaner or solvents as it may damage plastic components. Use soft, clean, dry fabric to gently wipe the Product.
- ◆ Do not place or store the device where it can be accessible by children and pets.
- ◆ Do not disassemble the Product as it will void product warranty and may also damage the product.
- ◆ Handle with care. Drop, shock, and mishandling of the Product may result in malfunction and/or damage to the device.
- ◆ Do not operate this device while driving.
- ◆ Install this device in a location where it has unobstructed view of the road but does not interfere with the driver's view. Check with your local and regional laws before mounting to windshield.
- ◆ The device and/or installation parts have moving parts and may shift in extreme road conditions such as unpaved road. Check frequently to ensure the device is positioned as instructed in this guide.
- ◆ Do not operate or handle power cable with wet hands.
- ◆ Do not use a damaged power cable.
- ◆ Keep the power cable away from heaters or other hot objects.
- ◆ Check that power cable with correct connector is used and the connections are secure and firmly in place.
- ◆ Do not pull, insert, or bend the power cable using excessive force.
- ◆ Do not place heavy objects on the device and the power cable.
- ◆ Do not modify or cut the power cable.
- ◆ THINKWARE does not guarantee that devices or peripherals not authorized by THINKWARE will be compatible with its Product.
- ◆ Do not attempt to insert foreign objects into the device or power cable.
- ◆ Do not spill or spray liquid into the device as it may cause malfunction, fire, or electric shock.
- ◆ This device is intended to be used inside the vehicle only.

1. Getting Started

This unit was tested with shielded cables on the peripheral devices.
Shielded cables must be used with the unit to insure compliance.

1-1. In the Package



Main Dash Cam Unit

Mount with 3M tape
(1ea)

Car Charger

Adhesive Cable Holder
(5ea)



MicroSD memory card with adapter
(consumable)

USB MicroSD card
reader

Quick Start Guide/Warranty/
User Manual (stored in the MicroSD card)

1-2. Optional Accessories

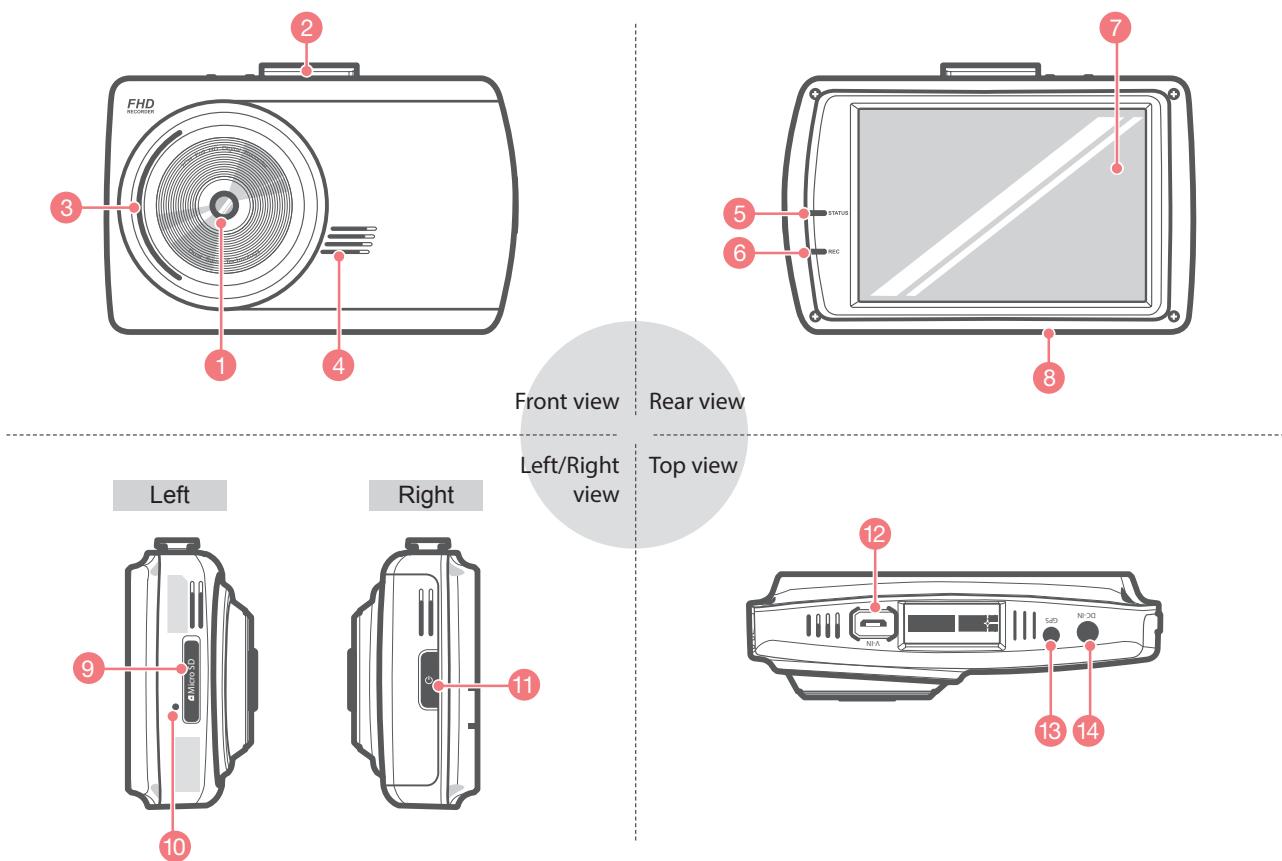


Hardwiring Cable

External GPS Receiver

Rear View Camera

1-3. Product Overview



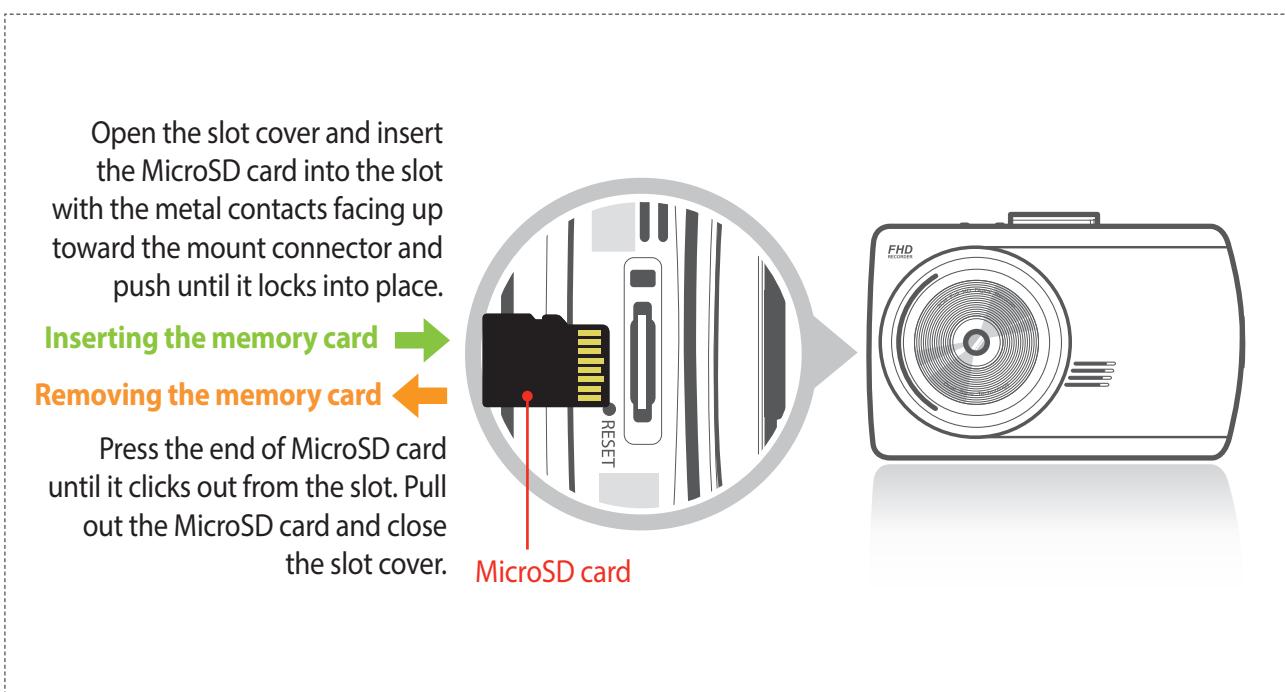
No.	Name	Description
1	Camera Lens	Front facing camera for video recording
2	Mount Connector	Connects to the windshield mount
3	Security LED	LED light that is used to visually indicate that the vehicle is equipped with dash cam which is in operation
4	Speaker	For voice guidance and alert/notification sounds
5	Operation Status LED	Indicates the device operating status
6	Recording Status LED	Indicates the device recording status
7	Touch LCD Screen	Live view, video playback, and dash cam configuration
8	Microphone	Records audio along with video
9	Memory Card Slot	Location for the memory card
10	Reset	Press to force the device to reboot
11	Power Button	Press and hold for 3 seconds to turn the device on/off
12	V-IN Socket	Connects to rear view camera. (Optional rear view camera is not included and requires separate purchase)
13	GPS Receiver Socket	Connects to external GPS receiver (optional accessory that requires separate purchase)
14	DC-IN	Connects to power cable

1-4. Inserting a Memory Card

1-4-1. About Memory Cards

- ▶ Class 10 microSD card must be used with a storage capacity of 8GB, 16GB, or 32GB. It is strongly recommended that minimum 16GB memory card is used for full HD recording.
- ▶ The microSD card should be formatted every 2 weeks to maximize the lifetime of the memory card.

1-4-2. Installing a microSD Card



Do not apply excessive force on the MicroSD card or attempt to insert it in the wrong direction as it may cause damage the MicroSD card and the card slot.

Cautions

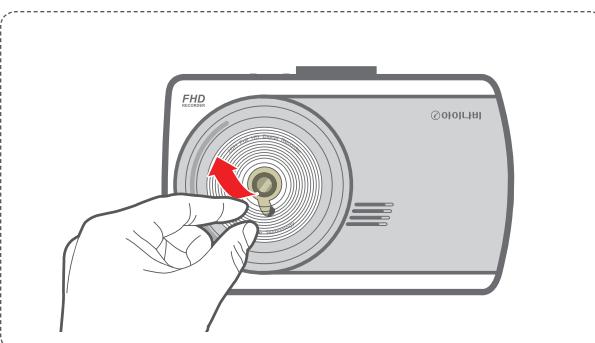
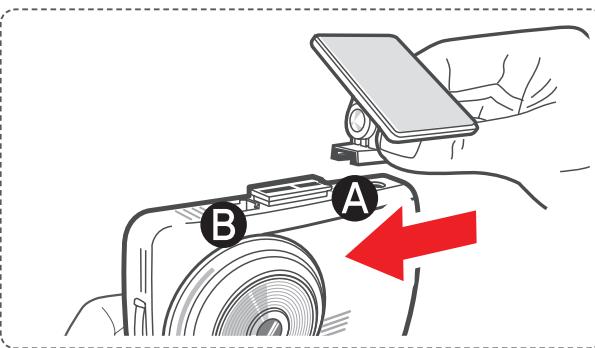
- The microSD card should be tested for errors on a regular basis and as the memory card is a consumable item, it will need to be replaced periodically.
- THINKWARE shall NOT be responsible for any problems and/or damages that may occur from not using genuine or authorized parts and accessories. It is strongly recommended that THINKWARE memory card is used to minimize memory card error.
- Turn the device off completely before removing the microSD card to avoid damages to the memory card.
- To prevent loss of important data, frequently copy recorded video from microSD card to another storage device such as personal computer for back up.

1-5. Vehicle Installation

1-5-1. Connecting the Device and the Mount

① Place the mount so it is aligned with the connector (A), and push it toward (B) until it clicks into place.

② Remove the protective film from the camera lens.

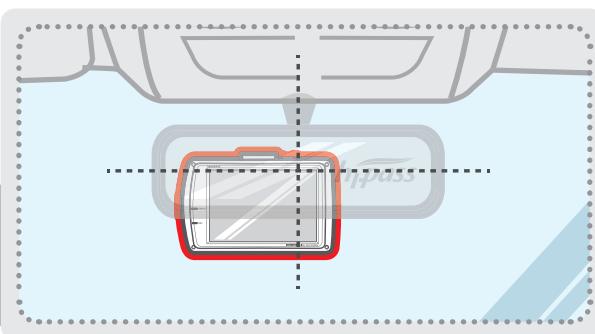
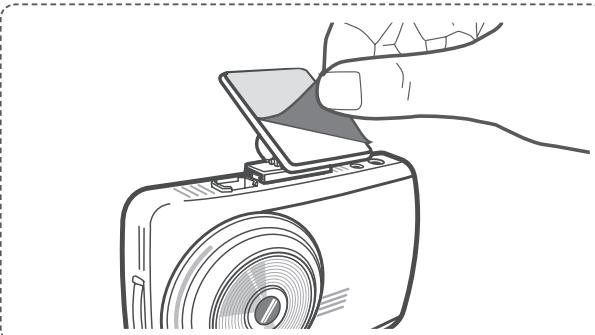


1-5-2. Installing the Device

- ① Clean the area on the windshield where the dash cam will be installed.
- ② With dash cam main unit still attached to the mount, remove the protective tape from the back of the mount.
- ③ Attach the adhesive side of the mount on the windshield where it has unobstructed view of the road but does not interfere with the driver's view.

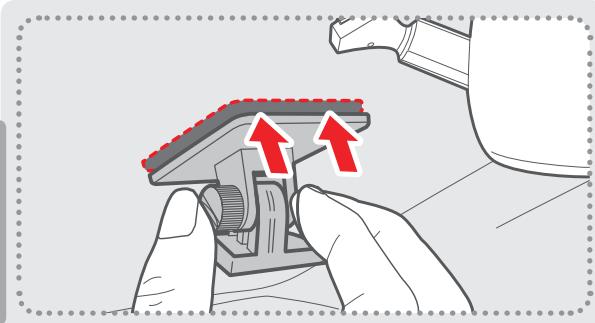
TIP

The camera is located on the right side of the main unit so install the dash cam on the left side of the center behind the rearview mirror.



TIP

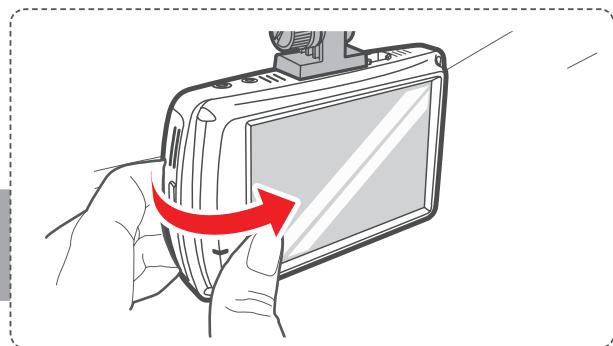
To ensure that the mount is safely secured, it is recommended that you separate the device from the mount after installation and press the mount towards windshield for 5 minutes to maintain pressure. Allow 24 hours until the adhesive on the mount has set before connecting the dash cam.



④ Adjust the camera so that the dash cam is facing forward and level with the vehicle and the road.

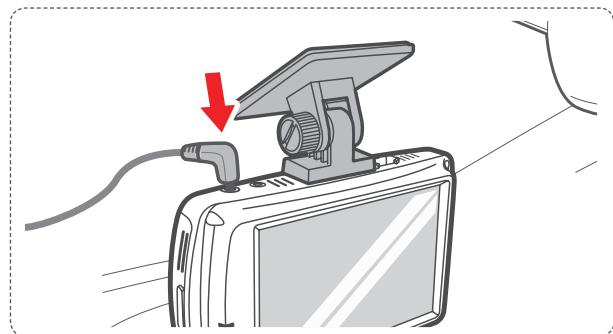
TIP

After installation, turn on the dash cam and use the live view on the LCD screen to adjust the camera angle.



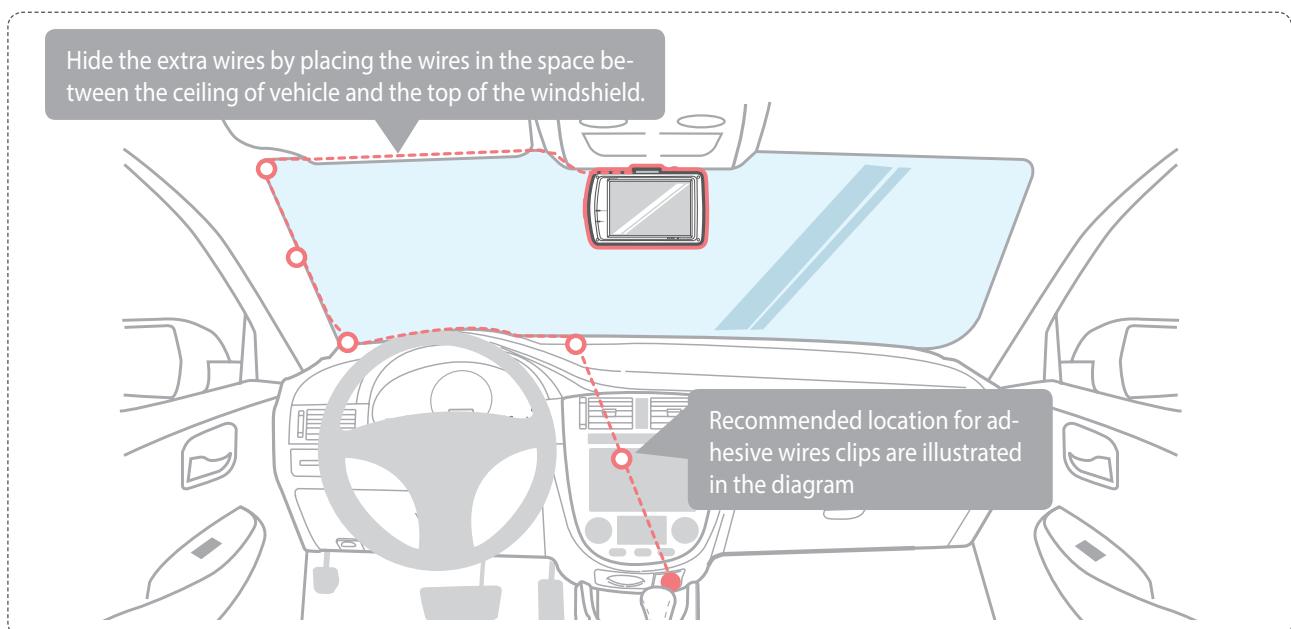
1-5-3. Connecting to power

- ① Connect the power cable to DC-IN socket of the device.
- ② Plug the charger adapter end of the power cable into a 12V DC vehicle power socket.
- ③ Arrange the wire by using the adhesive cable holder as shown below.



Hide the extra wires by placing the wires in the space between the ceiling of vehicle and the top of the windshield.

Recommended location for adhesive wires clips are illustrated in the diagram



For more information on the power cable routing instruction, please visit Thinkware homepage (<http://thinkwaredashcam.com>)

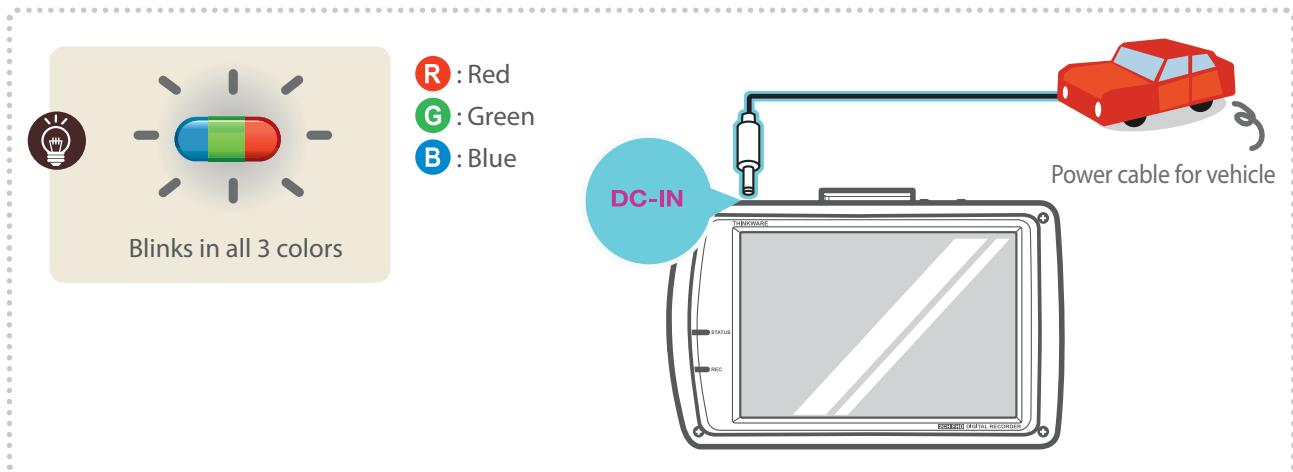
Preventing Vehicle Battery Discharge

- Depending on the car make and model, the power from the vehicle can be supplied even with the ignition turned off. In this case, the dash cam stays on as continuous mode and does not enter parking surveillance mode which will result in vehicle battery discharge.
- Some vehicles with multiple power sockets might be equipped with at least 1 outlet that does not shut off the power with the ignition. So, test each power outlet to ensure you connect to an outlet that shut off with vehicle engine.

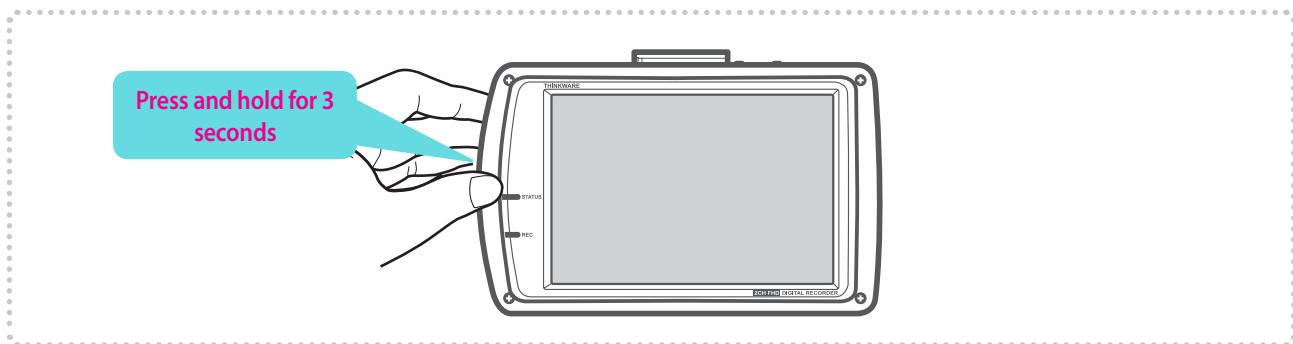
2. Basic Operations

2-1. Turning the Device Power On/Off

- The device will automatically turn on and off with vehicle ignition.

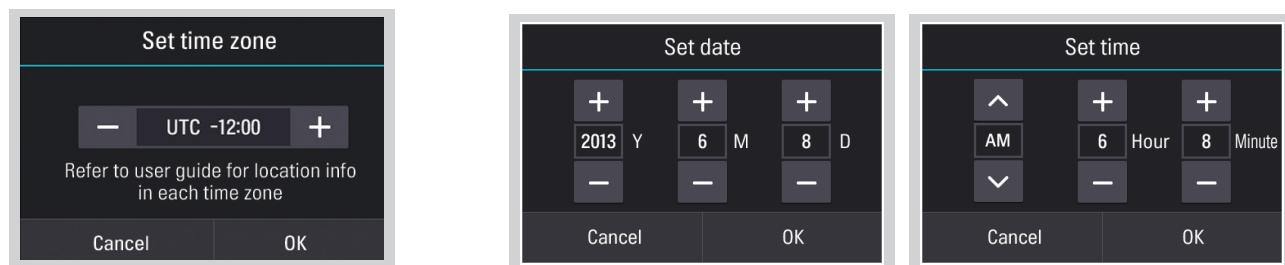


- To manually turn the device on/off, press and hold the Power button (髯) for 3 seconds.



2-2. Date/Time Settings

- It is strongly recommended to have the date, time, and time zone configured on the device.
- If the LCD is off, touch the LCD screen to activate the display.

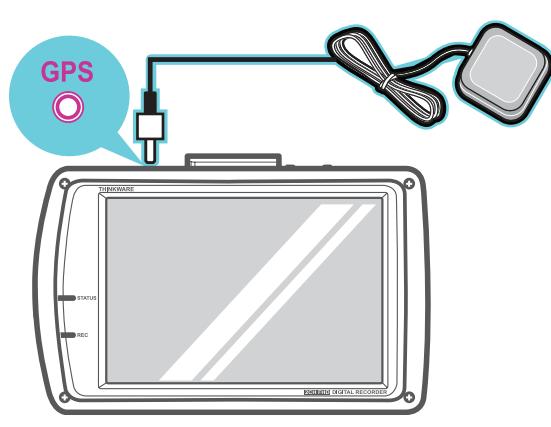


① Go to "Settings" > "Common" > "Time Zone Setting" to set the local time zone.

② Go to "Settings" > "Common" > **"Date Setting" / "Time Setting"** to set the local date and time.

2-3. Connecting External GPS Receiver(Optional Accessories)

- ▶ External GPS Receiver is available as an optional accessory that can be purchased from Thinkware authorized dealers.
- ▶ External GPS Receiver enables recording of vehicle locations in the video file for driving route tracking.
 - └ Connect external GPS Receiver to the GPS port of the dash cam.



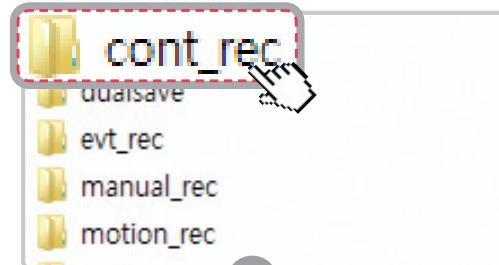
Cautions

- THINKWARE shall NOT be responsible for any problems and/or damages that may occur from not using genuine or authorized parts and accessories. It is strongly recommended that THINKWARE external GPS receiver is used.
- Turn the device off completely before connecting the GPS receiver to avoid damages.

2-4. Recorded Files

- ▶ Recorded video files are saved in the folder by date and hour in the microSD card.

└ Files are created based on the time when the videos are recorded.



Rear view recording
(optional rear view camera must be installed)

REC_2013_10_08_15_05_48_S	2013-10-08 오후
REC_2013_10_08_15_06_49_S	2013-10-08 오후
REC_2013_10_08_15_07_40_D	2013-10-08 오후
REC_2013_10_08_15_13_55_S	2013-10-08 오후
REC_2013_10_08_15_14_52_S	2013-10-08 오후
REC_2013_10_08_15_15_53_S	2013-10-08 오후
REC_2013_10_08_15_11_53_S	2013-10-08 오후
REC_2013_10_08_15_12_54_S	2013-10-08 오후
REC_2013_10_08_15_13_55_S	2013-10-08 오후



- └ As a surveillance product, the dash cam will automatically overwrite oldest file in the memory card once the memory is full. However, event recording and manual recording videos are stored in separate location and will be protected from file overwriting.

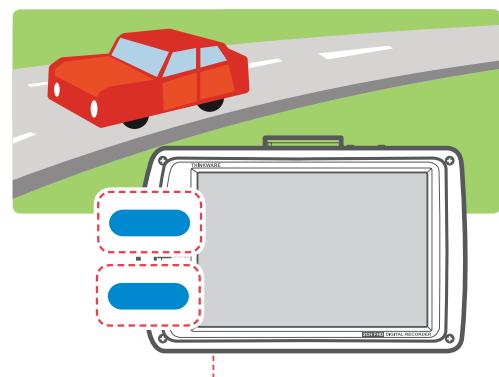
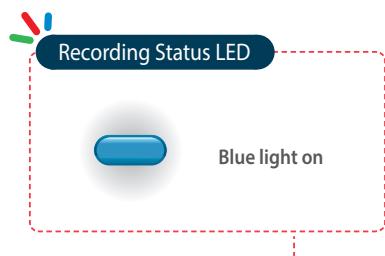
Cautions

- Do not use microSD as external storage device.
- Do not save or modify saved files in the microSD card.
This may result in unexpected behavior during operation.

2-5. Recording Videos While Driving

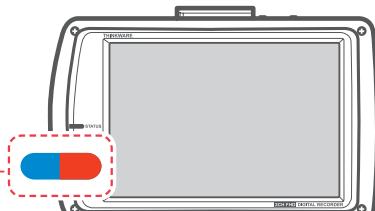
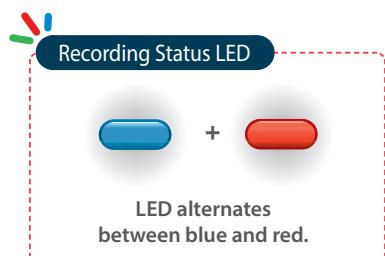
2-5-1. Continuous Recording Mode

- Videos are recorded in 1 minute segments and saves as files in the microSD card under folder named "cont_rec".



2-5-2. Incident Recording in During Continuous Recording Mode

- When the dash cam detects impact, it will immediately store the previous 10 seconds prior to impact and start recording video for next 10 seconds.
- This 20 second video will then be saved in a secure location on the microSD card under folder named "evt_rec".
Note that the dash cam will detect impact as incident only if the level of impact is greater than the sensitivity of the G-sensor set in the user configuration.



Cautions

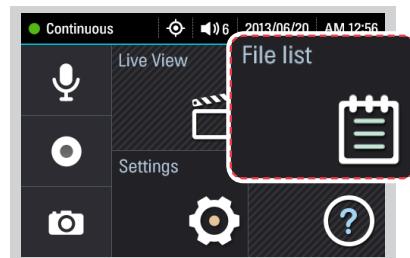
- Driving over speed bump, manhole, or uneven road at high speed can also be detected as incident.
- The device can record up to 1 minute if there are continuous impacts in case of multiple accidents.
- The time for which the device records video before and after impact can vary according to the device setting.

2-5-3. Dual Save™ (Internal Memory Backup)

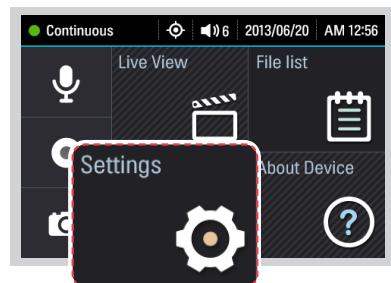
► Dual Save is a Thinkware proprietary technology that utilizes built-in memory as secure backup in addition to microSD memory card. Dual Save technology guarantees incident video recording using internal memory in case of an accident that causes damage to the microSD memory card.

- └ In addition to saving incident video files to microSD card at the time of the accident, Dual save stores another backup copy onto the built-in internal memory in case there has been a damage to either main unit or microSD card that might result in failure to save incident videos in the microSD card
- └ When Dual Save is activated, it will immediately store the previous 4 seconds prior to impact and start recording video for next 2 seconds for total of 6 second video clip

- └ **View Dual Save Video Files:** Video recorded and stored on the internal backup memory through Dual Save technology can be viewed in the list located at "Video List" > "Event : Continuous" > "Dual Save".



- └ **Copy Dual Save Video Files:** Video recorded and stored on the internal backup memory through Dual Save technology can be copied to microSD card using copy menu located at "Settings" > "Dual Save Video". Ensure that a microSD card is present in the device.



Cautions

- Dual Save technology saves duplicate copy of recorded video for secure backup to the internal memory so the internal memory life span may be affected by G-sensor user setting, road conditions, and driving behavior which directly impact frequency of incident recordings.
Driving over speed bump, manhole, or uneven road at high speed can also be detected as incident.
- Professional product service is required for replacing internal memory.

2-6. [Optional] Recording Videos While Parked

This feature is available only when the dash cam has been hardwired direct to the vehicle battery. Separate purchase is required for the hardwiring cable accessory and installation is required.

2-6-1. Incident Recording

► When the dash cam detects impact while parked, it will immediately store the previous 10 seconds prior to impact and start recording video for next 10 seconds which is then saved in a secure location on the microSD card under folder named "parking_rec".



2-6-2. Motion Detection Recording

The dash cam and optional rear view camera are both equipped with motion detectors which are used to detect motion that initiates video recording while the vehicle is parked.

► When the dash cam detects impact while parked, it will immediately store the previous 10 seconds prior to impact and start recording video for next 10 seconds which is then saved in a secure location on the microSD card under folder named "motion_rec".



Cautions

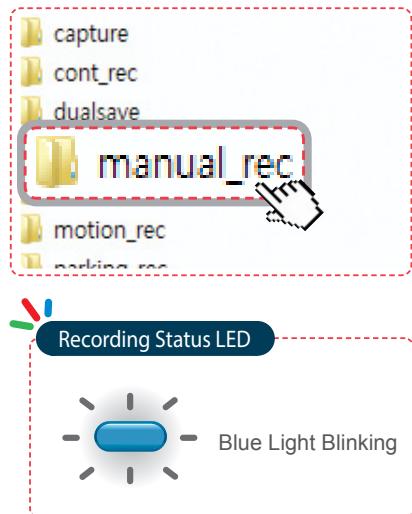
- The device can record up to 1 minute if there are continuous impacts in case of multiple accidents.
- The time for which the device records video before and after impact can vary according to the device setting.

2-7. Manual Recording

In addition to recording accidents, the dash cam allows the user to initiate manual recording mode to capture scenery and/or places while driving. This feature can also be used to save video as witness where the installed vehicle is not directly involved in an accident. Video files saved during manually recording mode are stored in a separate location on the memory card and will be protected from video overwriting in continuous recording mode.

- **Briefly press the REC** button to start recording. The device will record video for 1 minute as of the time when the button is pressed. The recorded video will be saved under the "manual_rec" folder.

Note that when manual recording is initiated, the previous 10 seconds prior to pressing the button will be saved so even if you just missed a scene, you can still capture and safely store the video by initiating manual record within 10 seconds of the event.

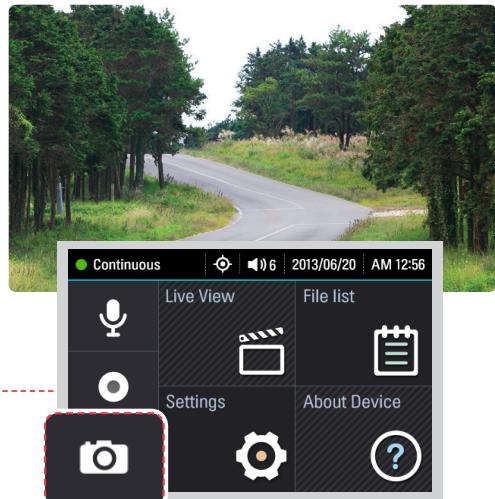
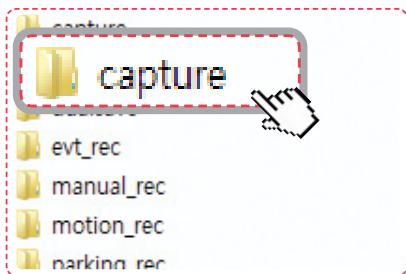


Cautions

- When the allocated storage for manual recording videos is full, oldest video file will be replaced by the new recorded video.

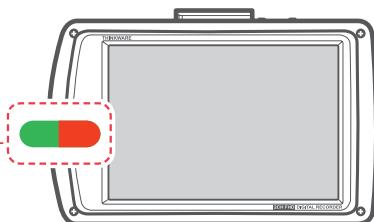
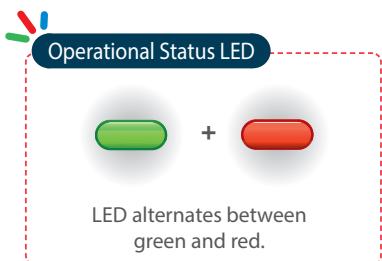
2-8. Capturing Still Images

- ▶ Briefly touch anywhere on the LCD to turn on the display and press the  button to take a photo. Buzzer will sound to indicate that a picture has been successfully taken.
 - └ Still images captured are saved in a secure location on the microSD card under folder named "capture".



2-9. Formatting MicroSD Card

- ▶ Select "Memory Card Format" menu located at "Settings">>"Additional Functions"



Cautions

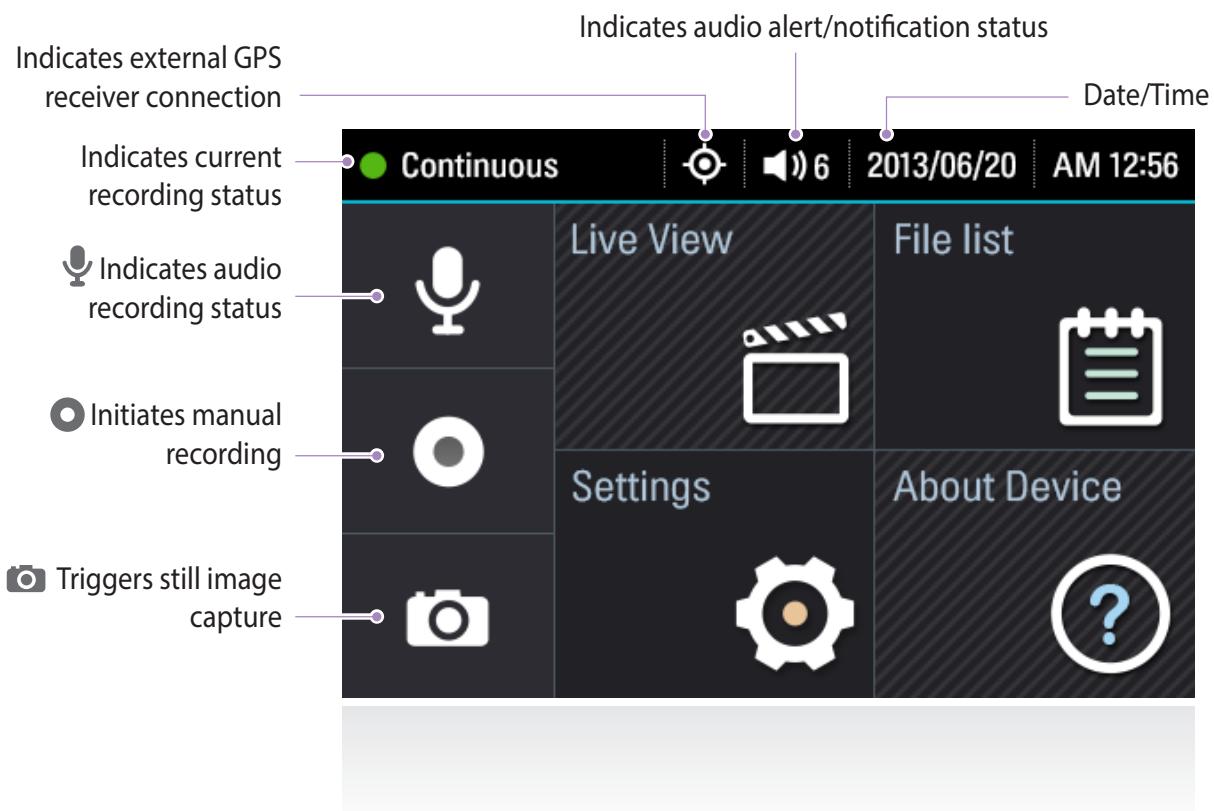
- The microSD card should be formatted every 2 weeks to maximize the lifetime of the memory card.

2-10. Upgrading Firmware

- ▶ The system will automatically be updated if the microSD card contains the firmware upgrade file.
 - └ The device restarts automatically after the upgrade has been completed.
- ▶ Make sure your device is always up to date with latest firmware. Please check back frequently at THINKWARE website (<http://thinkwaredashcam.com>) for latest firmware updates.

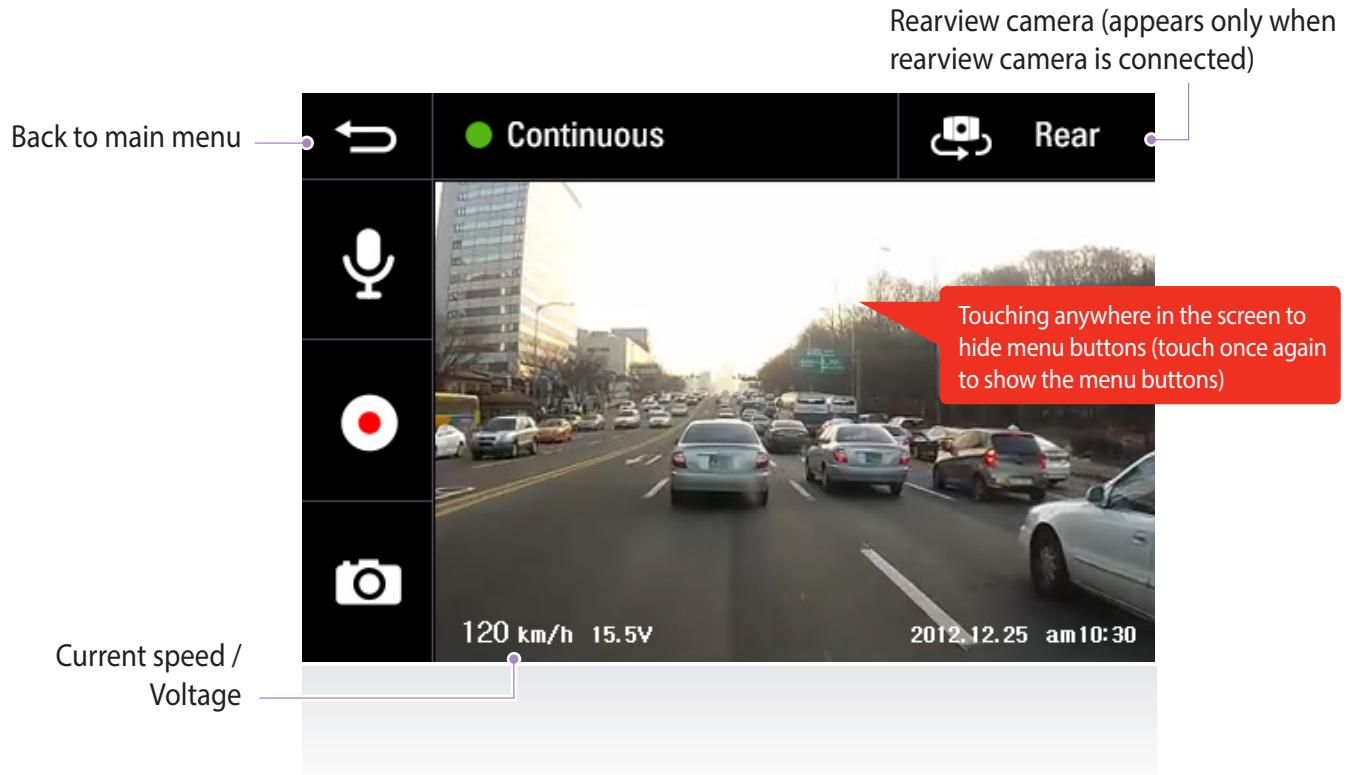
3. Touch LCD

3-1. Main Menu



3-2. Live View

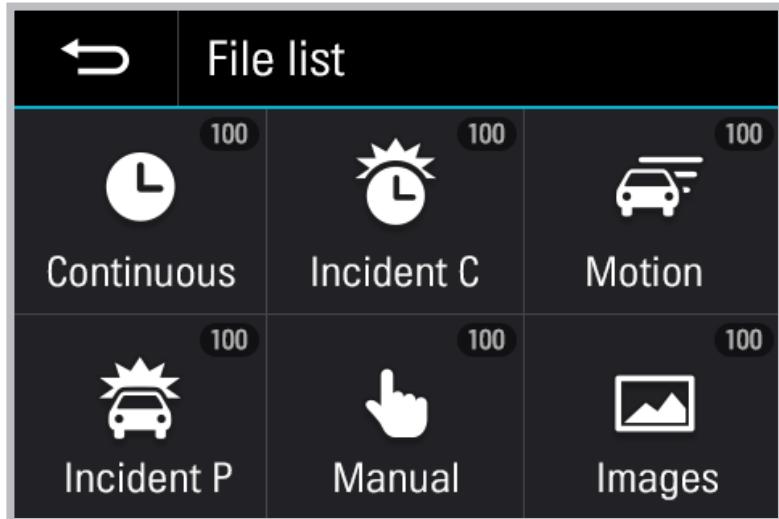
LCD screen can be used to verify current recording view.



3-3. Video List

Recording will suspend when browsing through video list and settings menu screen. Visual notification will appear on the screen to confirm the suspension of recording prior to entering these menu screens.

3-3-1. Video List - 1

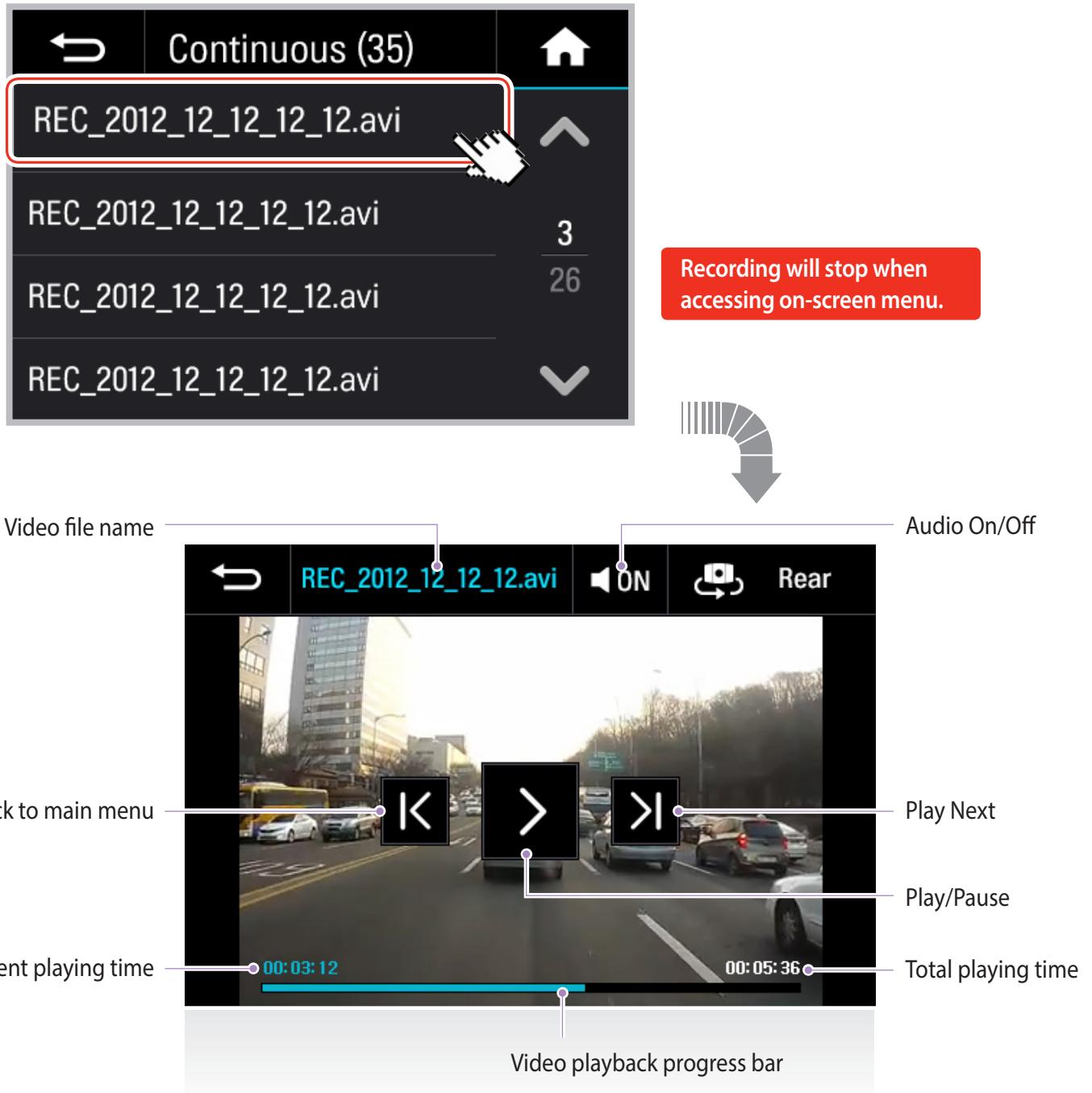


- ▶ **Continuous Recording:** Lists loop recording videos during continuous mode (in 1 minute segments)
- ▶ **Incident in Continuous Mode:** Lists incident recording videos during continuous mode
- ▶ **Motion in Parking Mode:** Lists motion detection recording videos during parking surveillance mode
- ▶ **Incident in Parking Mode:** Lists incident recording videos during parking surveillance mode
- ▶ **Manual Recording:** Lists manual recording videos initiated by selecting button
- ▶ **Photo:** Lists still images captured initiated by selecting button

Cautions

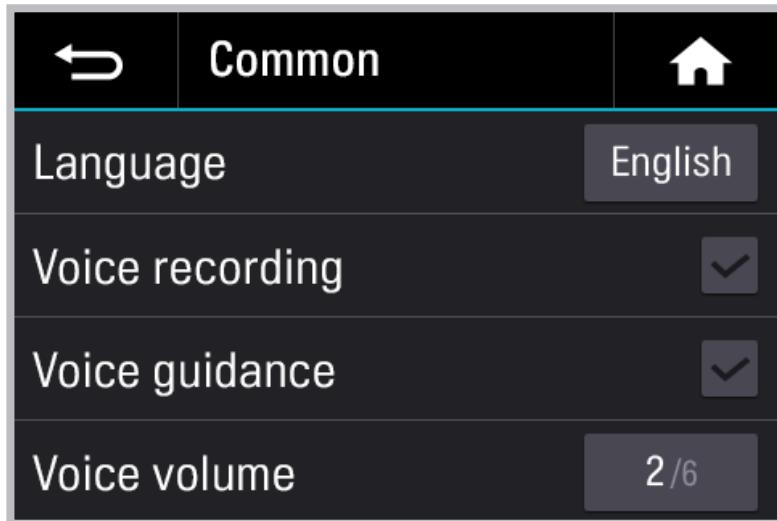
- The set storage capacity may be different from the actual capacity by approximately 30 to 40MB.

3-3-2. Video List - 2



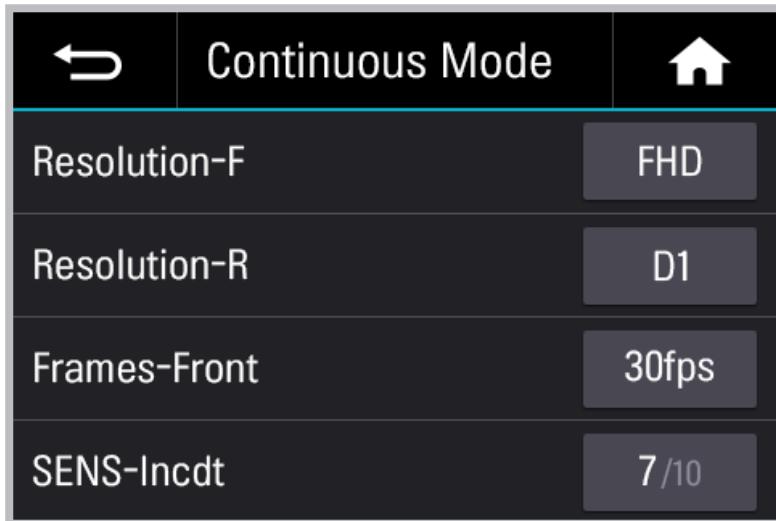
3-4. Settings > Common

Recording will suspend when browsing through video list and settings menu screen. Visual notification will appear on the screen to confirm the suspension of recording prior to entering these menu screens.



- ▶ **Language** : Sets language
- ▶ **Audio Recording**: Sets audio recording on/off
- ▶ **Voice guidance**: Sets voice guidance on/off
- ▶ **Volume**: Sets the volume level
- ▶ **Camera Brightness**: Sets the brightness of the camera
- ▶ **LCD Brightness**: Sets the brightness of the LCD screen
- ▶ **LCD Auto Off**: Sets the time for LCD auto shut off
 - └ When LCD is off, touching anywhere on the screen will turn it back on
- ▶ **Date/Time Setting**: Sets the date/time information
- ▶ **Time Zone**: Sets the time zone
- ▶ **Daylight Saving Time (DST)**: Sets the daylight saving time
- ▶ **Speed Unit**: Sets the unit for the vehicle speed

3-5. Settings > Continuous Recording Mode



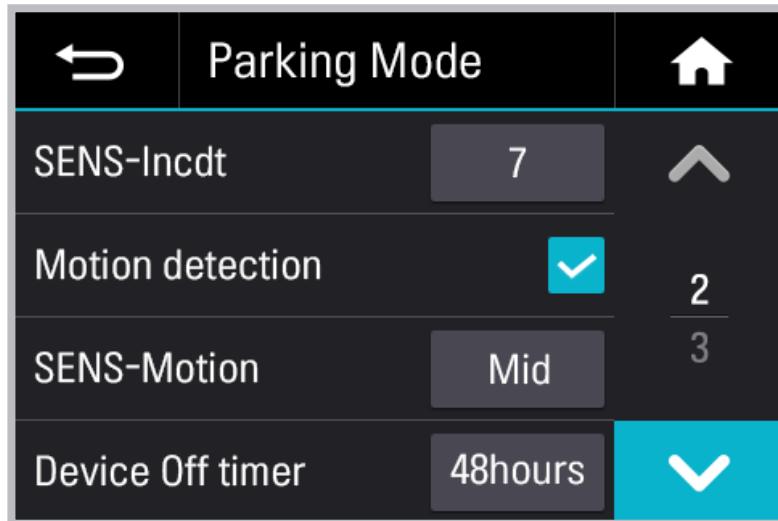
- ▶ **Front/Rear Camera Resolution:** Sets the video recording resolution for front camera
- ▶ **Front Camera Frame Rate:** Sets the frame rate for video recording
- ▶ **Impact Sensitivity:** Sets the impact sensitivity level

Cautions

- **Tip on sensitivity**

It is recommended that you set the sensitivity according to vehicle type. High sensitivity setting is recommended for cars with softer ride such as luxury sedans and low sensitivity setting is recommended for cars such as performance cars, trucks, or SUVs which tends to have stiffer suspension settings.

3-6. Settings > Parking Surveillance Mode

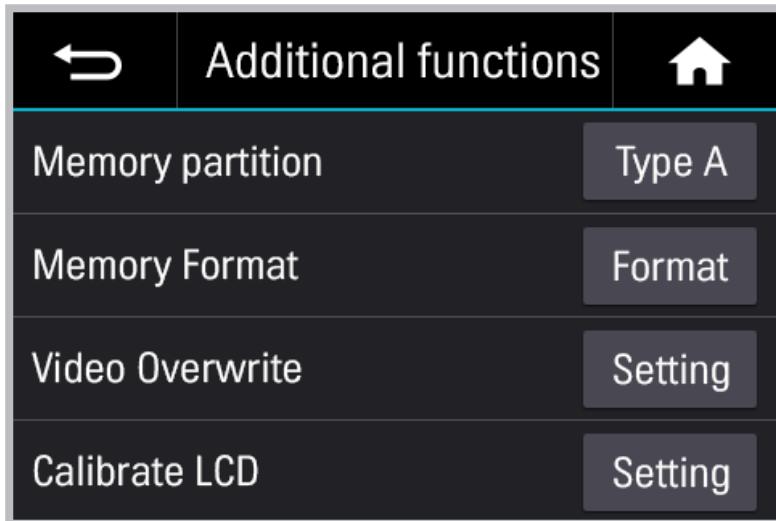


- ▶ **Auto Parking Mode:** Monitors vehicle ignition status to automatically convert to parking mode when the vehicle engine is turned off
- ▶ **Front/Rear Camera Resolution:** Sets the video recording resolution for front/rear camera in parking mode
- ▶ **Front Camera Frame Rate:** Sets the frame rate for video recording in parking mode
- ▶ **Impact Sensitivity:** Sets the impact sensitivity level in parking mode
- ▶ **Motion Detection:** Sets motion detection recording in parking mode
- ▶ **Motion Detection Sensitivity:** Sets the sensitivity of the motion detection sensor
- ▶ **Stop Timer:** Sets the timer for the dash cam to automatically shut down in parking mode to prevent from draining the vehicle battery
- ▶ **Stop Voltage:** Sets the voltage level for the dash cam to automatically shut down in order to prevent from draining the vehicle battery

Cautions

- It is recommended to format the memory card when settings for video resolution and/or frame rate have been changed.
- Be sure to backup important video files before formatting the memory card.

3-7. Settings > Additional Functions



► **Memory Partition:** Sets how storage space on the memory card will be allotted for each recording mode

- └ Type A (recommended) : Optimized for continuous recording
- └ Type B : Optimized for incident and motion detection during parking surveillance
- └ Type C : Optimized for continuous and incident recording

► **Format Memory Card:** Formats the microSD card

- └ Formatting will completely erase all video files stored in the memory card

► **Video Overwrite Setting:** Sets the overwriting option which will allow new video files to overwrite oldest video in storage reserved for each mode

► **Calibrate Touch Screen:** Calibrate touch screen to ensure accurate touch response

► **Security LED:** Sets the pattern for security LED

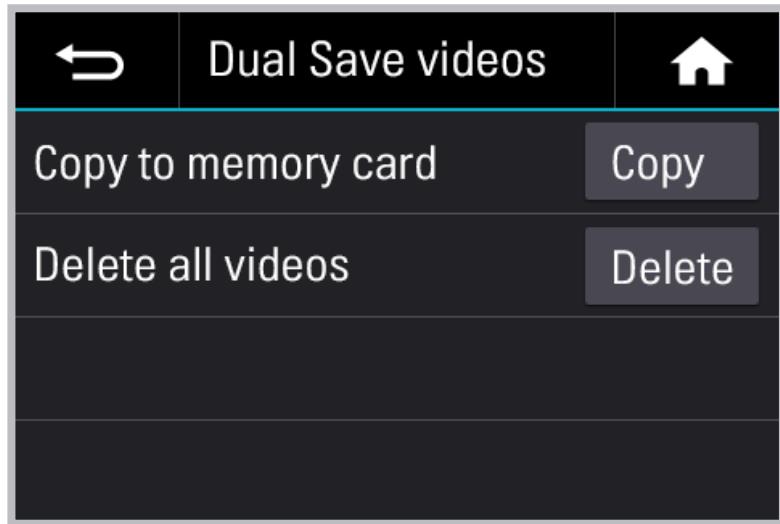
► **Date/Time Setting :** Sets the date and time for the device to timestamp the recorded videos

► **Factory Reset:** Restores to factory setting

Cautions

- It is recommended that you back up data before formatting the memory card.
- Once you format the memory card, all data will be deleted and cannot be restored.
- The method for formatting a microSD card might vary depending on the computer operating system.

3-8. Settings > Dual Save Video



- ▶ **Copy Dual Save Video to Memory Card:** Copy all videos saved on the internal memory to microSD card
- ▶ **Delete All Dual Save Video:** Delete all videos saved on the internal memory

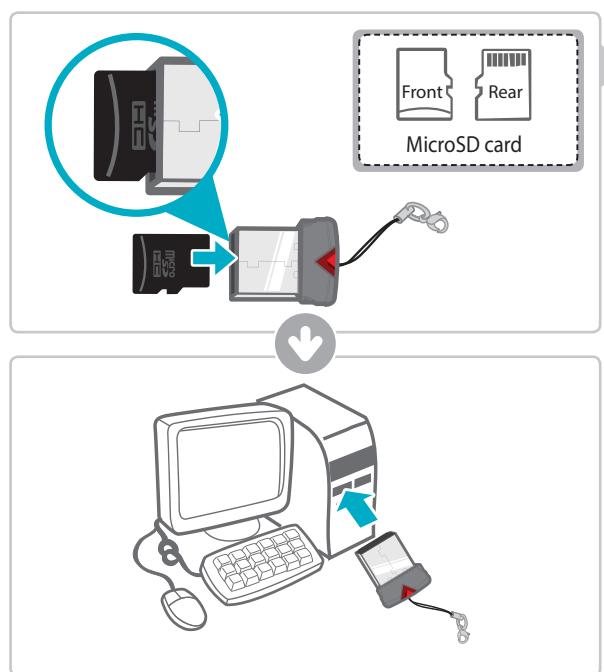
4. PC Application

4-1. Thinkware Dash Cam PC Viewer

Thinkware Dash Cam PC Viewer for both Windows/MacOS is provided which can be used to watch videos recorded with the dash cam. The video files recorded by the dash cam are in one minute segments and the PC viewer allows user to watch the segments in single continuous video.

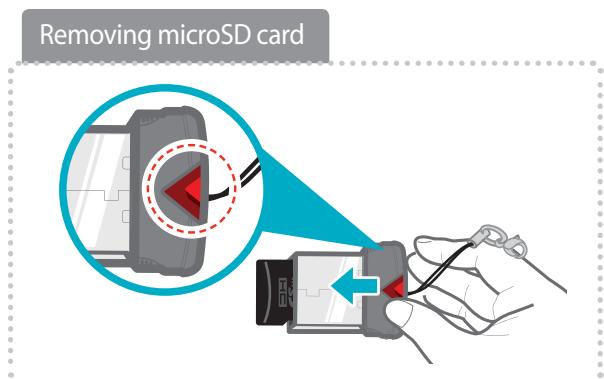
The setup file for the Thinkware Dash Cam PC Viewer is included in the microSD card in the package. Please check THINKWARE homepage(<http://thinkwaredashcam.com>) for latest Dash Cam PC Viewer application.

4-1-1. Installing Thinkware Dash Cam PC Viewer



- ① Insert the microSD card into the USB microSD card reader (included in the package) with front side facing up as shown in the illustration.
- ② Connect the USB microSD card reader to the PC.

Ensure that the USB card reader is correctly oriented when inserting to USB drive on the PC



4-1-2. Installing Thinkware Dash Cam Viewer

Windows

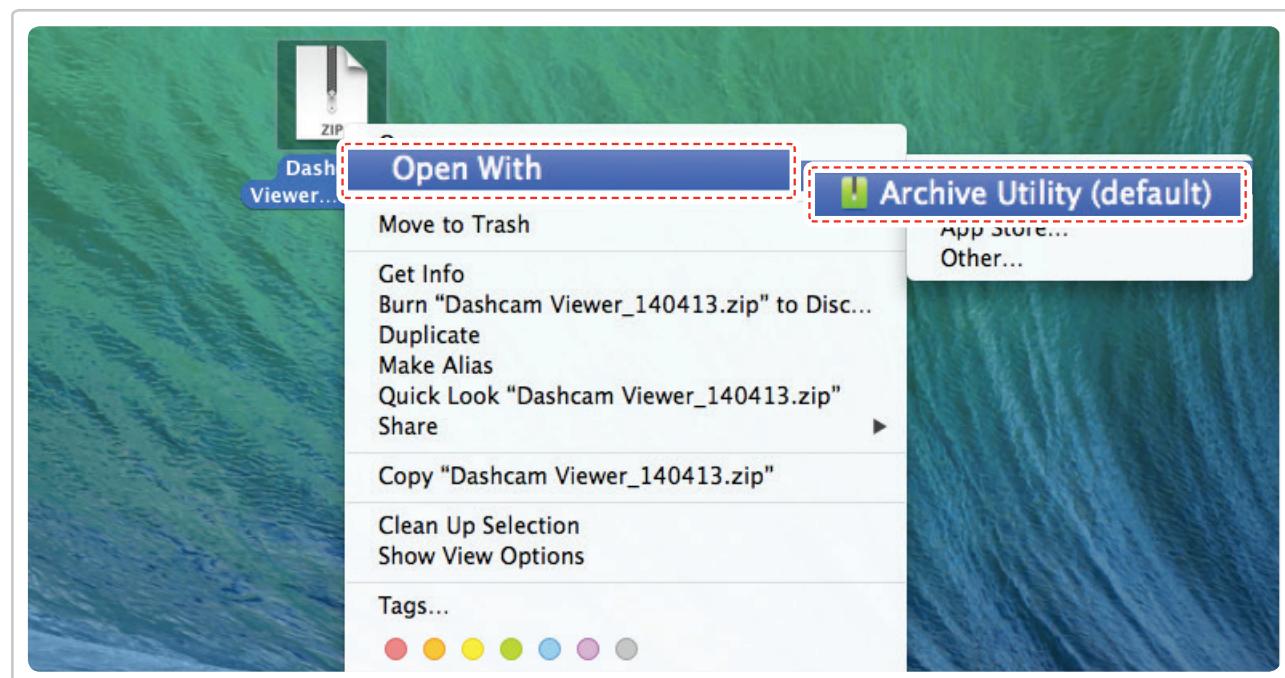


① Double-click the Thinkware Dash Cam Viewer setup file saved in the microSD card to initiate program installation.

② Double-click the application icon once PC Viewer installation completes and the application main screen will then appear.

MAC

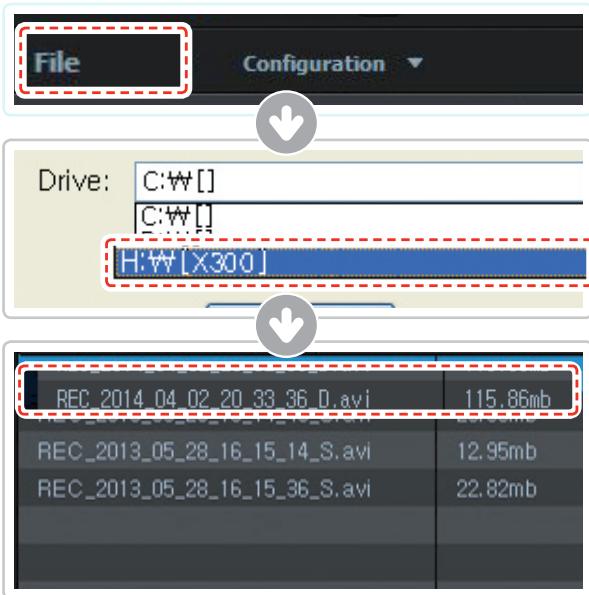
- ① Move the file named "Dashcam Viewer.zip" stored in the microSD card to the desktop.
- ② Right click on the mouse and select "Open With" > "Archive Utility" to launch the Thinkware Dash cam viewer application.



Cautions

- Mac OS X v10.6.6 or higher required for PC Viewer installation

4-1-3. Select the Device Drive for X300

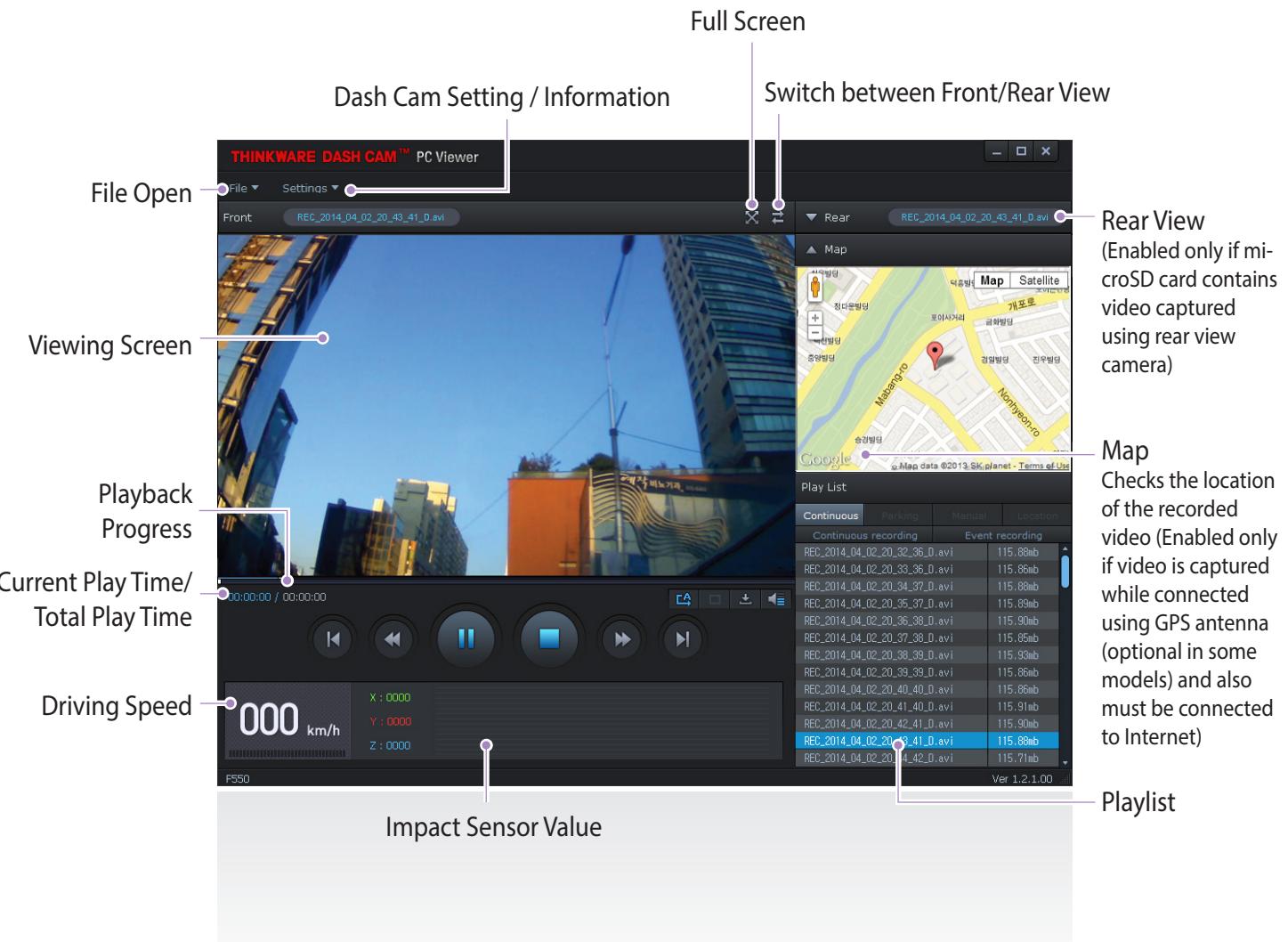


- ① Click **File** ▼ from menu and select the drive for the portable storage drive for the connected microSD card.
- ② Select any file from the list to load entire video play-list in the memory card.

Cautions

- The drive for microSD card will not open if it has not previously been initialized in the dash cam.
- Record at least 1 video clip with the microSD card in the dash cam before being able to access full menu on Thinkware Dash Cam Viewer software.

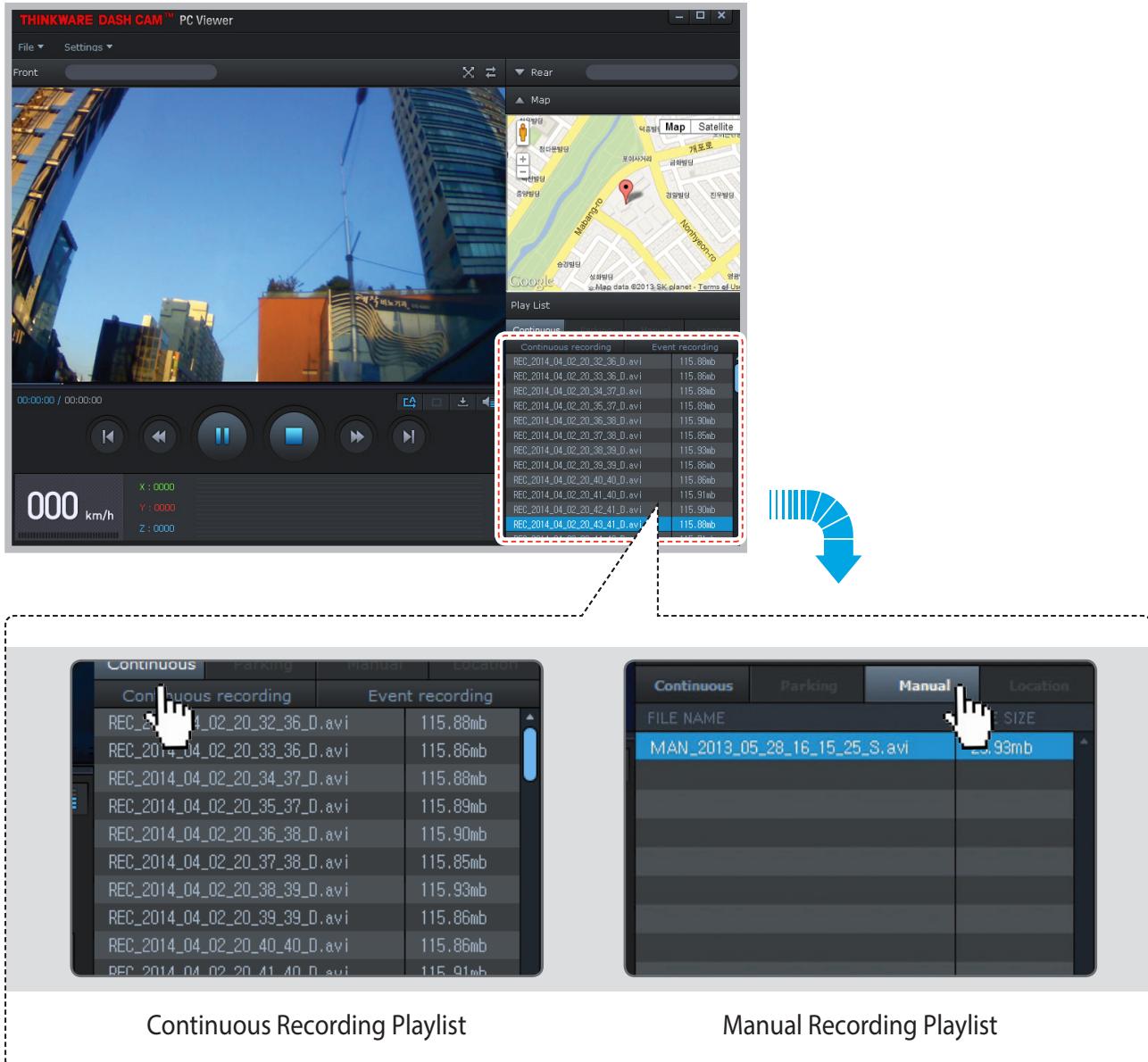
4-1-4. Thinkware Dash Cam Viewer Overview



No.	Name	Description
◀	Play Previous	Plays the previous file before the current file
◀◀	Rewind by 10 Sec	Rewinds the current file being played by 10 seconds (If selected, it continues to rewind by 10 seconds)
▶/⏸	Play/Pause	Plays the recorded file / temporarily pauses playback
■	Stop	Stops the file being played. The playback status resets to the starting point of the video.
▶▶	Fast-forward by 10 Sec	Fast-forwards the current file being played by 10 seconds (If selected, it continues to fast-forward by 10 seconds)
▶	Play Next	Plays the next file after the current file
⟳	Auto Play	Automatically loops the video back to beginning once the end has reached
▢	Zoom	Sets the video expansion ratio (0.5x / 1.0x / 1.5x / 2.0x)
⚙️	Screen Setting	Sets brightness/speed of the video
⬇️	Save	Saves the video in play
🔊	Volume	Sets the volume of the playback

4-1-5. View Video Playlist

► Select appropriate folder (Continuous Recording, Incident Recording, Manual Recording, Parking Motion, Parking Incident) to see the playlist for each recording mode.



5. Specifications

5-1. Specifications

The specifications of this product may change without prior notice for product improvements.

Item	Standard	Note
Model	X300	
Size/weight	106.3 x65.8 x 31.4mm / 150g 4.2 x 2.6 x 1.23 inches / 0.33 lbs	
Display Panel	3.5" TFT LCD (480x320)	
Capacity	microSD card	8GB/16GB/32GB Class 10
Recording mode	Continuous Recording Mode	Records in 1 minute segment
	Incident Recording Mode	
	Manual Recording Mode	
	Parking Surveillance Mode	Optional hardwiring cable and installation are required for continuous supply of power when vehicle ignition is off.
	Capturing Still Image	
	Audio Recording	Press Voice Recording Button to turn the audio recording on or off
Video quality	Choose from one of three different modes (low/mid/high)	Total recording time varies depending on the partition type.
Camera	2.0 Megapixel, 1/2.7" CMOS	
Viewing angle	Approximately 146° (diagonally)	
Video	Full HD (1920 x 1080/H.264/extension AVI)	HD (1280 x 720/H.264/extension AVI) for rear view camera when connected
Frame rate	1 channel (Front view) : up to 30 fps	2 channel (Rear view): up to 20 fps
Audio	PCM (Pulse code modulation)	
Acceleration sensor	3-axis acceleration sensor (3D, ±4G)	Adjustable impact sensitivity (10 levels)
Rear camera	Support V-IN port	Optional accessory that requires separate purchase.
GPS	External GPS Receiver	Optional accessory that requires separate purchase
Input power source	DC 12/24V	Rearview camera: 5V DC
Current consumption	2CH: 5.3W/1CH: 3.5W (mean)	Based on fully charged super capacitor/LCD off/Excluding external GPS
Auxiliary power unit	Supercapacitor	
Warning sound	Embedded speaker	Voice (buzzer sound) guidance
Operation/Storage Temperature	-20°C to 65°C / -40°C to 80°C -4°F to 149°F / -40°F to 176°F	
Connection Interface	1 x V-IN port (microUSB) / 1 x GPS (2.5Ø)	